CLAIMS

What is claimed is:

1. An apparatus for attenuating undesirable high frequency signals in an alternating current (AC) power signal comprising:

a capacitor;

a control device having two terminals and a control electrode, coupled to the capacitor;

a control circuit for sensing a high potential on the capacitor when it is disconnected from the AC power signal, coupled to the control electrode of the control device; and

a variable resistor coupled between one of the two terminals and the control electrode of the control device for surge protection from unusually high voltages at the power source, the variable resistor causing the control device to conduct in the presence of the unusually high voltage.

2. The apparatus of claim 1, wherein the variable resistor is a varistor.

3. The apparatus of claim 2, wherein the varistor has cross-bar characteristics.

4. The apparatus of claims 1 or 3, wherein the control device is a TRIAC.

5. The apparatus of claim 4, wherein the two terminals of the control device are an anode terminal and cathode terminal, and wherein the variable resistor is coupled between the control electrode and the anode.

6. The apparatus of claim 2 including a resistor coupled in series with the control device.

7. An apparatus comprising:

a capacitor for coupling to receive an alternating current power signal for attenuating signals having a frequency higher than the fundamental frequency of the alternating current power signal;

a control device having a gate and two terminals, the two terminals being coupled to the capacitor; and

a variable resistor being coupled between the gate and one of the terminals of the control device for causing the control device to conduct when the alternating current power signal is unusually high;

whereby voltage surges in the alternating current signal are shorted.

8. The apparatus defined by claim 7, wherein the control device is a TRIAC.

9. The apparatus defined by claim 8, wherein the variable resistor is a varistor.

10. The apparatus defined by claim 9, wherein a resistor is coupled in series with the control device.

11. The apparatus defined by claim 9, wherein the varistor has cross-bar characteristics.

12. The apparatus defined by claim 7 or 8, wherein the two terminals of the control device are an anode terminal and a cathode terminal, and the variable resistor is a varistor, the varistor being coupled between the anode terminal and gate of the control device.